

We claim:

- 1 1. A method of forwarding a packet comprising:
  - 2 determining a logical grouping of a plurality of virtual private network tunnels
  - 3 based on a classification criterion;
  - 4 classifying a received packet based on said classification criterion; and
  - 5 based on a result of said classifying, using a selection algorithm associated
  - 6 with said logical grouping to determine one of said plurality of virtual private
  - 7 network tunnels on which to forward said packet.
- 1 2. The method of claim 1 wherein said selection algorithm is a table look-up
- 2 algorithm.
- 1 3. The method of claim 1 wherein said classifying said received packet comprises
- 2 inspecting contents of said received packet.
- 1 4. The method of claim 1 further comprising:
  - 2 determining a logical sub-grouping of said plurality of virtual private network
  - 3 tunnels based on a further classification criterion; and
  - 4 further classifying said received packet based on said further classification
  - 5 criterion.
- 1 5. The method of claim 1 wherein said selection algorithm includes a traffic
- 2 balancing algorithm.
- 1 6. The method of claim 1 wherein said virtual private network tunnels are defined as
- 2 Multi Protocol Label Switching label switched paths.
- 1 7. The method of claim 6 wherein said received packet has includes destination
- 2 address and said selection algorithm involves determining a label for a network
- 3 element having said destination address.
- 1 8. A router operable to:

2       determine a logical grouping of a plurality of virtual private network tunnels  
3       based on a classification criterion;  
  
4       classify a received packet based on said classification criterion; and  
  
5       based on a result of said classifying, use a selection algorithm associated with  
6       said logical grouping to determine one of said plurality of virtual private  
7       network tunnels on which to forward said packet.

1    9. A computer readable medium containing computer-executable instructions which,  
2    when performed by processor in router, cause the processor to:

3       determine a logical grouping of a plurality of virtual private network tunnels  
4       based on a classification criterion;  
  
5       classify a received packet based on said classification criterion; and  
  
6       based on a result of said classifying, use a selection algorithm associated with  
7       said logical grouping to determine one of said plurality of virtual private  
8       network tunnels on which to forward said packet.

1    10. A method of forwarding a received packet in a virtual private network comprising:

2       associating a logical grouping of a plurality of virtual private network tunnels  
3       with a classification criterion;  
  
4       inspecting said received packet for a characteristic meeting said classification  
5       criterion; and  
  
6       if said received packet has said characteristic meeting said classification  
7       criterion, forwarding said received packet on one of said plurality of virtual  
8       private network tunnels.

1    11. The method of claim 10 further comprising, if said received packet has said  
2    characteristic meeting said classification criterion, modifying said received packet  
3    before said forwarding.

- 1 12. The method of claim 11 wherein said modifying comprises encapsulating said  
2 received packet.
- 1 13. A router operable to:
- 2 associate a logical grouping of a plurality of virtual private network tunnels  
3 with a classification criterion;
- 4 inspect said received packet for a characteristic meeting said classification  
5 criterion; and
- 6 if said received packet has said characteristic meeting said classification  
7 criterion, forward said received packet on one of said plurality of virtual private  
8 network tunnels.